

Call reference number	(2025-19)
Call name	IKUR Neutrionics-MAGMAENA pre-doctoral position on magnetic materials for energy applications
Application Deadline	2025/05/28

Introduction and main description

BCMaterials, Basque Center for Materials, Applications and Nanostructures, is an autonomous research center launched in June 2012 by Ikerbasque, the Basque Foundation for Science and the University of the Basque Country (UPV/EHU) as a research center for Materials, Applications and Nanostructures. The center is included in the BERC's (Basque Excellence Research Centers) network and its mission is to generate knowledge on the new generation of materials, turning this knowledge into (multi)functional solutions and devices for the benefit of society.

We are looking for a pre-doctoral researcher with a background in Physics, Chemistry, Materials Science or related areas, with experience in the synthesis and characterization of magnetic materials, who will be working in a project devoted to the study of magnetic materials for energy production and efficiency, in close collaboration with the University of the Basque Country (UPV/EHU) and Tecnalia.

This position is funded under the IKUR neutrionics project MAGMAENA: magnetic materials for energy applications. The ideal starting date is 01/07/2025, and the project's estimated ending on 31/12/2026.

Skills and Requirements

The candidate must have a bachelor degree or a master in Materials Science, Physics, Chemistry or related areas.

A background in condensed matter physics is desirable but not compulsory. Knowledge in advanced structural characterization techniques, in particular scattering-type ones, is also desirable.

Proficiency in speaking and writing in English.

Self-motivated and ability to work in a team and willing to coordinate the research in a particular topic.

A high level of motivation and independent thinking abilities.

Ability and eagerness to learn new skills outside his/her own discipline.

Presentation skills and being able to meet the deadline are also required.

Work Program / Duties / Responsibilities

The pre-doctoral candidate's primary focus will be the development of magnetic alloys presenting large entropy changes when undergoing a phase transition, leading to an outstanding performance for magnetocaloric applications. In particular, the PhD researcher will be responsible for the synthesis, structural and magnetic characterization of highly anisotropic magnetic alloys through arc-melting, melt-spinning and spark plasma synthesis routes. Further to these, she/he will also be directly engaged in the preparation and submission of neutron beamtime proposals, as well as in the neutron diffraction experiments and analysis.

Application Procedure

Apply by submitting a motivation letter and a CV (in English) using the "Contact" button at the corresponding offer, at the "Join Us" area on BCMaterials' portal (<https://www.bcmaterials.net/join-us>).
Your name and email address will be required for further contact too.

Other Relevant Information

We provide a highly stimulating environment with state-of-the-art infrastructures, and unique professional career development opportunities. We offer and promote a diverse and inclusive environment and welcomes applicants regardless of age, disability, gender, nationality, ethnicity, religion, sexual orientation or gender identity.

The candidates must include contact details for 2 referees.